

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Original): A method for tracking a requested signal, the method comprising:

receiving a request for the requested signal;
generating transaction identification data which identifies the received request;

including a pattern in the requested signal to form a watermarked signal using a predetermined basis signal, wherein the transaction identification data can be derived from the pattern; further wherein the inclusion of the basis signal in the requested signal is designed to introduce no more than a predetermined maximum level of perceptibility to the requested signal.

Claim 2 (Original): The method of Claim 1 where including comprises:

retrieving the basis signal; and

including the basis signal in the requested signal to form the watermarked signal in such a manner that the pattern is embedded in the watermarked signal and can be recognized in the watermarked signal.

Claim 3 (Previously presented): The method of Claim 2 wherein including the basis signal comprises:

logically dividing the basis signal into segments; and

for each segment of the basis signal,

adding the segment of the basis signal to a corresponding segment of the requested signal upon a condition in which a corresponding portion of the pattern has a first logical value; and

subtracting the segment of the basis signal from the corresponding segment of the requested signal upon a condition in which the corresponding portion of the pattern has a second logical value.

Claim 4 (Original): The method of Claim 1 further comprising:

sending the watermarked signal in response to the request for the requested signal.

Claim 5 (Original): The method of Claim 1 wherein including comprises:

selecting watermarked signal fragments representing a first logical value for corresponding portions of the pattern which have the first logical value;

selecting watermarked signal fragments representing a second logical value for corresponding portions of the pattern which have the second logical value; and

combining the watermarked signal fragments representing the first and second logical values to form the watermarked signal.

Claim 6 (Previously presented): The method of Claim 5 wherein the watermarked signal fragments are compressed such that the watermarked signal fragments comprise the watermarked signal in a compressed form.

Claim 7 (Original): A method for enabling embedding of transaction-specific identification data into a requested signal, the method comprising:

logically dividing the requested signal into segments;

for each segment,

embedding a first logical value in the segment to form a first embedded segment;

embedding a second logical value in the segment to form a second embedded segment; and

including both the first and second embedded segments in a composite signal.

Claim 8 (Original): The method of Claim 7 farther comprising:

for each of the segments of the requested signal:

selecting from first and second embedded segments of the composite signal according to a corresponding bit of the transaction-specific identification data.

Claim 9 (Original): The method of Claim 8 further comprising:

combining the selected embedded segments of the composite signal to form a watermarked signal which includes the transaction-specific identification data embedded therein.

Claim 10 (Original): The method of Claim 7 wherein including both the first and second embedded segments in a composite signal comprises:

including the first embedded segment in a first frame;
compressing the first frame to form a first compressed frame;
including the second embedded segment in a second frame;
compressing the second frame to form a second compressed frame; and
including both the first and second compressed frames in the composite signal.

Claim 11 (Original): The method of Claim 10 wherein including both the first and second embedded segments in a composite signal further comprises:

determining that the first and second compressed frames are equivalent; and
including a single compressed frame in the composite signal to represent both the first and second compressed frames.

Claim 12 (Original): A method for embedding transaction-specific identification data into a requested signal, the method comprising:

retrieving a composite signal which includes, for each of one or more corresponding portions of the requested signal, a first marked segment which represents a first logical value embedded in the corresponding portion of the requested signal and a second marked segment which represents a second logical value embedded in the corresponding portion of the requested signal;

for each of the corresponding portions of the requested signal, selecting segments of the composite signal according to logical values of corresponding bits of the transaction-specific identification data; and

combining the selected segments to form a watermarked signal which includes the transaction-specific identification data embedded therein.

Claim 13 (Original): The method of Claim 12 wherein the first and second marked segments are compressed such that watermarked signal formed by combining the selected segments is compressed.

Claim 14 (Original): A computer-readable storage medium on which is stored computer code which, when executed by a computer, causes the computer to enable tracking a requested signal by:

receiving a request for the requested signal;

generating transaction identification data which identifies the received request;

including a pattern in the requested signal to form a watermarked signal using a predetermined basis signal, wherein the transaction identification data can be derived from the pattern; further wherein the inclusion of the basis signal in the requested signal is designed to introduce no more than a predetermined maximum level of perceptibility to the requested signal.

Claim 15 (Original): The computer-readable storage medium of Claim 14 where including comprises:

retrieving the basis signal; and

including the basis signal in the requested signal to form the watermarked signal in such a manner that the pattern is embedded in the watermarked signal and can be recognized in the watermarked signal.

Claim 16 (Previously presented): The computer-readable storage medium of Claim 15 wherein including the basis signal comprises:

logically dividing the basis signal into segments; and
for each segment of the basis signal,

adding the segment of the basis signal to a corresponding segment of the requested signal upon a condition in which a corresponding portion of the pattern has a first logical value; and

subtracting the segment of the basis signal from the corresponding segment of the requested signal upon a condition in which the corresponding portion of the pattern has a second logical value.

Claim 17 (Original): The computer-readable storage medium of Claim 14 wherein the computer code, when executed by the computer, further causes the computer to enable tracking a requested signal by:

sending the watermarked signal in response to the request for the requested signal.

Claim 18 (Original): The computer-readable storage medium of Claim 14 wherein including comprises:

selecting watermarked signal fragments representing a first logical value for corresponding portions of the pattern which have the first logical value;

selecting watermarked signal fragments representing a second logical value for corresponding portions of the pattern which have the second logical value; and

combining the watermarked signal fragments representing the first and second logical values to form the watermarked signal.

Claim 19 (Original): The computer-readable storage medium of Claim 18 wherein the watermarked signal fragments are compressed such that combining the watermarked signals fragments forms the watermarked signal in a compressed form.

Claim 20 (Original): A computer-readable storage medium on which is stored computer code which, when executed by a computer, causes the computer to enable embedding of transaction-specific identification data into a requested signal by:

- logically dividing the requested signal into segments;

- for each segment,

 - embedding a first logical value in the segment to form a first embedded segment;

 - embedding a second logical value in the segment to form a second embedded segment; and

- including both the first and second embedded segments in a composite signal.

Claim 21 (Original): The computer-readable storage medium of Claim 20 wherein the computer code, when executed by the computer, further causes the computer to enable embedding of transaction-specific identification data into a requested signal by:

- for each of the segments of the requested signal:

 - selecting from first and second embedded segments of the composite signal according to a corresponding bit of the transaction-specific identification data.

Claim 22 (Original): The computer-readable storage medium of Claim 21 wherein the computer code, when executed by the computer, further causes the computer to enable embedding of transaction-specific identification data into a requested signal by:

combining the selected embedded segments of the composite signal to form a watermarked signal which includes the transaction-specific identification data embedded therein.

Claim 23 (Original): The computer-readable storage medium of Claim 20 wherein including both the first and second embedded segments in a composite signal comprises:

including the first embedded segment in a first frame;
compressing the first frame to form a first compressed frame;
including the second embedded segment in a second frame;
compressing the second frame to form a second compressed frame; and
including both the first and second compressed frames in the composite signal.

Claim 24 (Original): The computer-readable storage medium of Claim 23 wherein including both the first and second embedded segments in a composite signal further comprises:

determining that the first and second compressed frames are equivalent; and
including a single compressed frame in the composite signal to represent both the first and second compressed frames.

Claim 25 (Previously presented): A computer-readable storage medium on which is stored computer code which, when executed by a computer, causes the computer to enable embedding transaction-specific identification data into a requested signal by:

retrieving a composite signal which includes, for each of one or more corresponding portions of the requested signal, a first marked segment which represents a first logical value embedded in the corresponding portion of the requested signal and a second marked segment which represents a second logical value embedded in the corresponding portion of the requested signal;

for each of the corresponding portions of the requested signal, selecting segments of the composite signal according to logical values of corresponding bits of the transaction-specific identification data; and

combining the selected segments to form a watermarked signal which includes the transaction-specific identification data embedded therein.

Claim 26 (Original): The computer-readable storage medium of Claim 25 wherein the first and second marked segments are compressed such that watermarked signal formed by combining the selected segments is compressed.

Claim 27 (Original): A computer system comprising:
a processor;
a memory coupled to the processor; and
a watermark which executes in the processor from the memory and
which, when executed, enables tracking of a requested signal by:

receiving a request for the requested signal;
generating transaction identification data which identifies the
received request; and

including a pattern in the requested signal to form a watermarked
signal using a predetermined basis signal, wherein the transaction
identification data can be derived from the pattern; further wherein the
inclusion of the basis signal in the requested signal is designed to introduce
no more than a predetermined maximum level of perceptibility to the
requested signal.

Claim 28 (Original): The computer system of Claim 27 where including
comprises:

retrieving the basis signal; and

including the basis signal in the requested signal to form the watermarked
signal in such a manner that the pattern is embedded in the watermarked signal
and can be recognized in the watermarked signal.

Claim 29 (Previously presented): The computer system of Claim 28 wherein including the basis signal comprises:

logically dividing the basis signal into segments; and

for each segment of the basis signal,

adding the segment of the basis signal to a corresponding segment of the requested signal upon a condition in which a corresponding portion of the pattern has a first logical value; and

subtracting the segment of the basis signal from the corresponding segment of the requested signal upon a condition in which the corresponding portion of the pattern has a second logical value.

Claim 30 (Original): The computer system of Claim 27 wherein the watermarker, when executed, enables tracking of a requested signal by also:

sending the watermarked signal in response to the request for the requested signal.

Claim 31 (Original): The computer system of Claim 27 wherein including comprises:

selecting watermarked signal fragments representing a first logical value for corresponding portions of the pattern which have the first logical value;

selecting watermarked signal fragments representing a second logical value for corresponding portions of the pattern which have the second logical value; and

combining the watermarked signal fragments representing the first and second logical values to form the watermarked signal.

Claim 32 (Original): The computer system of Claim 31 wherein the watermarked signal fragments are compressed such that combining the watermarked signals fragments forms the watermarked signal in a compressed form.

Claim 33 (Original): A computer system comprising:
a processor;
a memory coupled to the processor; and
a blank watermark which executes in the processor from the memory and which, when executed, enables embedding of transaction-specific identification data into a requested signal by:

logically dividing the requested signal into segments;
for each segment,
 embedding a first logical value in the segment to form a first embedded segment;
 embedding a second logical value in the segment to form a second embedded segment; and
 including both the first and second embedded segments in a composite signal.

Claim 34 (Original): The computer system of Claim 33 further comprising:
for each of the segments of the requested signal:

selecting from first and second embedded segments of the
composite signal according to a corresponding bit of the transaction-
specific identification data.

Claim 35 (Original): The computer system of Claim 34 wherein the blank
watermarker, when executed, enables embedding of transaction-specific
identification data into a requested signal by also:

combining the selected embedded segments of the composite signal to form
a watermarked signal which includes the transaction-specific identification data
embedded therein.

Claim 36 (Original): The computer system of Claim 33 wherein including
both the first and second embedded segments in a composite signal comprises:

including the first embedded segment in a first frame;
compressing the first frame to form a first compressed frame;
including the second embedded segment in a second frame;
compressing the second frame to form a second compressed frame; and
including both the first and second compressed frames in the composite
signal.

Claim 37 (Original): The computer system of Claim 36 wherein including both the first and second embedded segments in a composite signal further comprises:

determining that the first and second compressed frames are equivalent; and
including a single compressed frame in the composite signal to represent both the first and second compressed frames.

Claim 38 (Original): A computer system comprising:

a processor;

a memory coupled to the processor; and

a watermark which executes in the processor from the memory and which, when executed, embeds transaction-specific identification data into a requested signal by:

retrieving a composite signal which includes, for each of one or more corresponding portions of the requested signal, a first marked segment which represents a first logical value embedded in the corresponding portion of the requested signal and a second marked segment which represents a second logical value embedded in the corresponding portion of the requested signal;

for each of the corresponding portions of the requested signal,

selecting segments of the composite signal according to logical values of corresponding bits of the transaction-specific identification data; and

combining the selected segments to form a watermarked signal which includes the transaction-specific identification data embedded therein.

Claim 39 (Original): The computer system of Claim 38 wherein the first and second marked segments are compressed such that watermarked signal formed by combining the selected segments is compressed.

Claim 40 (Original): A computer-readable storage medium on which is stored a signal which comprises:

one or more segments of a subject signal;

for each of the segments,

a first segment instance representing a first logical value of portion of a pattern which is embedded in the segment; and

a second segment instance representing a second logical value of the portion embedded in the segment.

Claim 41 (Original): The computer-readable storage medium of Claim 40 wherein two or more segments of the subject signal are represented in a composite frame; and

further wherein the composite frame includes the following frame instances:

(i) the first segment instance of a first of the two or more segments of the composite frame and the first segment instance of a second of the two or more segment of the composite frame;

(ii) the first segment instance of the first segment of the composite frame and the second segment instance of the second segment of the composite frame;

(iii) the second segment instance of the first segment of the composite frame and the first segment instance of the second segment of the composite frame; and

(iv) the second segment instance of the first segment of the composite frame and the second segment instance of the second segment of the composite frame.

Claim 42 (Original): The computer-readable storage medium of Claim 41 wherein the frame instances (i) through (iv) are compressed.

Claim 43 (Original): The computer-readable storage medium of Claim 40 wherein the first and second segment instances or each of the segments are compressed.

Claim 44 (Previously presented): A transaction-specific watermark embedded in requested digital content.

Claim 45 (Previously presented): The watermark of claim 44, wherein the watermark is embedded in a carrier wave transporting the requested digital content via a network to a party who requested the digital content.

Claim 46 (Previously presented): The watermark of claim 44, wherein two or more segments of a signal representing the requested digital content are included in a composite frame; and further wherein the composite frame includes:

- (i) a first segment instance of a first of the two or more segments of the composite frame and a first segment instance of a second of the two or more segment of the composite frame;

- (ii) the first segment instance of the first segment of the composite frame and a second segment instance of the second segment of the composite frame;

- (iii) a second segment instance of the first segment of the composite frame and the first segment instance of the second segment of the composite frame; and

- (iv) the second segment instance of the first segment of the composite frame and the second segment instance of the second segment of the composite frame.

Claim 47 (Previously presented): A transaction-specific watermark embedded in requested digital content, the watermark being generated by one or more processors configured to perform acts of:

generating transaction identification data identifying a received request;

including a pattern in the requested digital content to form a watermarked signal using a predetermined basis signal, wherein the transaction identification data can be derived from the pattern, wherein including is designed to introduce no more than a predetermined maximum level of perceptibility to the requested digital content.

Claim 48 (Previously presented): The watermark of claim 47, wherein the watermark is embedded in a carrier wave transporting the requested digital content via a network to a party who requested the requested digital content.

Claim 49 (Previously presented): The watermark of claim 47, wherein two or more segments of a signal representing the requested digital content are included in a composite frame; and further wherein the composite frame includes:

(i) a first segment instance of a first of the two or more segments of the composite frame and a first segment instance of a second of the two or more segment of the composite frame;

(ii) the first segment instance of the first segment of the composite frame and a second segment instance of the second segment of the composite frame;

(iii) a second segment instance of the first segment of the composite frame and the first segment instance of the second segment of the composite frame; and

(iv) the second segment instance of the first segment of the composite frame and the second segment instance of the second segment of the composite frame.